

provide information of a health status of the authenticated user.

11. A user authentication method using a Raman spectrum, the user authentication method comprising:

analyzing user characteristic information from a Raman spectrum of a user; and

authenticating the user, based on the analysis.

12. The user authentication method of claim **11**, wherein the analyzing comprises:

extracting, from the Raman spectrum, data comprising any one or any combination of a type of the Raman spectrum, a Raman shift of a peak point, and an intensity of the peak point; and

analyzing the extracted data as the user characteristic information.

13. The user authentication method of claim **11**, further comprising:

irradiating light to skin of the user;

receiving light that is reflected from the skin; and

acquiring the Raman spectrum from the received light.

14. The user authentication method of claim **13**, wherein the irradiating comprises irradiating light to the skin of the user for a predetermined time, and

the analyzing comprises, in response to fluorescence bleaching occurring in the Raman spectrum over time, extracting a fluorescence bleaching range from the Raman spectrum, and analyzing the extracted fluorescence bleaching range as the user characteristic information.

15. The user authentication method of claim **14**, wherein the analyzing further comprises:

extracting, from the extracted fluorescence bleaching range, data comprising either one or both of a principal component composition ratio of the skin of the user and feature information of a first principal component; and analyzing the extracted data as the user characteristic information.

16. The user authentication method of claim **15**, wherein the analyzing further comprises extracting, from the extracted fluorescence bleaching range, the principal component composition ratio of the skin of the user, using a principal component analysis method.

17. The user authentication method of claim **15**, wherein the feature information of the first principal component occupies a largest proportion of the principal component composition ratio.

18. The user authentication method of claim **15**, wherein the analyzing further comprises:

repeatedly measuring the feature information of the first principal component at an arbitrary time; and verifying reproducibility of the measured feature information of the first principal component.

19. The user authentication method of claim **11**, further comprising:

storing the analysis as the user characteristic information, wherein the authenticating comprises authenticating an identify of the user by comparing the analysis and pre-stored user characteristic information.

20. The user authentication method of claim **11**, further comprising:

processing the analysis with respect to the authenticated user; and

providing information of a health status of the authenticated user.

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